What's New With QuickTime VR?

New Products and Opportunities

Session 724

What's New With QuickTime VR?

New Products and Opportunities

Amy Fazio
Product Marketing Manager, QuickTime
afazio@apple.com

What's New With QuickTime VR?

New Products and Opportunities

Jim Anders
Founder and President
Kaidan Incorporated
anders@kaidan.com

What's New With QuickTime VR?

Introduction—QuickTime VR

- Where have we been?
- Where are we now?
- What is the current and potential market?
- What opportunities exist for 3rd party development?
- Q&A

QuickTime VR

Where Have We Been?

Where Have We Been?

1995–1996

- QuickTime VR Authoring Tools Suite
- MPW Based—Command Line, Dongle, ~$2,000
- 35mm film cameras, scanned, photoCD
- Apple QuickTake 100 digital camera (640 x 480)
- Kaidan QuickPan and WideTake Lens for QuickTake

Where Have We Been?

1997–1998

- QuickTime VR Authoring Studio—$400
- Panimation—Nodester and Widgetizer
- Live Picture PhotoVista
- OmniView (IPIX)
- Apple QuickTake 150/200—Kodak DC40/50
- Kaidan KiWi—$100

Where Have We Been?

1997–1998

- VR Toolbox—VR Worx
- REALVIZ Stitcher
- Apple QTVRAS
- iSeeMedia PhotoVista
- Totally Hip—Live Stage Pro
- EyeSee360°—PhotoWarp
- Kaidan PanoPost
- EasyPano—Panoweaver
- Deep Forest—VR Hotwires
- Apple iPhoto
- Flaming Pear—Flexify
- Zoomify
- Panoscan
- VR Tools
- Ken Turkowski—DeFish
- Runtime Revolution
- ClickHere Design Cubic Connector
- Squamish Media Tools

QuickTime VR

Where Are We Now?

Where Are We Now?

- 2003
  - QuickTime VR
  - Stable, mature, cross-platform architecture
  - Most popular immersive imaging format
  - Rich media environment
  - Best playback experience
  - Mac OS X and Quartz Extreme

Where Are We Now?

2003—A few success stories

- Automotive web sites
- Motion picture/media web sites
- Educational/Industrial/Scientific

Demo

QuickTime VR
Current and Potential Market?

Current and Potential Market

- XX,XXX devices sold via Kaidan (early adopters)
- Exploding digital camera market
- 12 Billion $ by 2007
- 51 Million Units by 2007
- Photographers looking to diversify
- Easy-to-use apps

Current and Potential Market

- Apple created enabling technology/architecture
- 3rd Party development opportunities

QuickTime VR

3rd Party Development Opportunities

3rd Party Development Opportunities

Availability of bandwidth

- Detailed, zoomable, high-res panoramas and objects
- Multirow object movies
- Revival

3rd Party Development Opportunities

Stereo imaging

- New unobtrusive technologies
- QTVR objects—stereo is free
- Panoramas

3rd Party Development Opportunities

QTVR cubics

- Unique optics
- Simplified capture

3rd Party Development Opportunities

QTVR & 3D

- Photogrammetry
- Open GL/gaming
- 3D objects from photos (wireframe and texture maps)
- G5 computing power

3rd Party Development Opportunities

QTVR and scripting—authoring

- AppleScript Studio
- Live Stage Pro
- Revolution

3rd Party Development Opportunities

QTVR and HDR

- High-Dynamic Range (HDR) imaging
- Multiple exposures
- Intelligent combining
- Pixlet Codec?
- HDR Shop—debevec.org
- Photomatix—multimediaphoto.com

3rd Party Development Opportunities

QTVR and Codecs

- Pixlet Codec?
- JPEG 2000
- MPEG-4

3rd Party Development Opportunities

QTVR objects

- Object In-Situ (i.e., statues in the park)
- Animated objects
- MPEG-4

Demo

3rd Party Development Opportunities

QTVR objects—Kinetic/mathematical visualization

- UC Davis: Eric Lum, Aleksander Stompel with Kwan-Liu Ma
- www.cs.ucdavis.edu/~ma/kinvis/

What’s New In QTVR?

Terry Breheny
DiGiTAL ZEN
http://digitalzen.info

Software…

- LiveStage Pro 4.1; Totally Hip Software $449.95
  - Full-featured QT authoring app; “VR release”
- VRWorx 2.5; VR Toolbox $299
  - QTVR authoring: OSX update; workflow features
- Zoomifyer VR v2.0; Zoomify $249
  - High-resolution VR streaming
- PhotoWarp 2.01; EyeSee360/Kaidan $999.95 (hw bundle)
  - Powerful & improved “single shot” unwarping software

Hardware…

- 0-360 Panoramic Optic; 0-360.com $595
  - "One Shot" solution; 115º FOV
- 303SPH; Manfrotto/Bogen $TBD
  - Professional cubic/spherical VR head (multi-row)
- ROUNDSHOT VR-DRIVE; SEITZ/Roundshot €1335
  - Automatic rotating platform (panos & objects)
- Custom-built, motorized pano head…
  - shown by Dennis Biela; Smithsonian Air & Space

Wrap Up

Roadmap—Thursday

	The Mission	Haight/ Ashbury	SOMA
9:00		723 The Real Story About MPEG-4 Visual Licensing	724 What's New With QuickTime VR?
10:30		725 QuickTime and Enhanced CDs	726 Cutting-Edge Projects Using QuickTime VR
12:00			
2:00	727 QuickTime Streaming Server Programming	728 Produce a Listening Party With QuickTime	729 Industrial-Strength Encoding
3:30		FF011 QuickTime Feedback Forum	
5:00			

Moved *to* Marina

Roadmap—Friday

	Pacific Heights	The Marina
9:00		
10:30	730 QuickTime Alternative Programming Environments	
12:00		
2:00		731 Internet Application Development: The New Frontier
3:30		
5:00		

Who to Contact

Jim Anders
President, Kaidan Incorporated
anders@kaidan.com

Guillermo Ortiz
QuickTime Technology Manager
quicktimeman@apple.com

http://developer.apple.com/wwdc2003/urls.html

Reference

A Few Online Resources

Trade Group
http://www.iqtvra.org

Panoramic Information
http://www.panoguide.com

Erik Goetze
http://www.vrlog.com http://www.virtualparks.org

Apple
http://www.apple.com/quicktime/qtvr

Ken Turkowski
http://www.worldserver.com/turk/qtvr

VR Mag
http://www.vrmag.org

For More Information

Documentation

General Information

http://www.apple.com/quicktime

Developer Information

http://developer.apple.com/documentation

QuickTime Information

http://developer.apple.com/QuickTime

Do Not Miss!

Lab: QuickTime Content Creation

Meet with QuickTime content experts for daily content specific topics that are of special interest to you. Bring your own media and PowerBook. No appointment is needed—first-come, first-served.

Sacramento Room

Lab: QuickTime Development

Meet with Apple's QuickTime engineers. Each day will emphasize a specific QuickTime development topic. Bring your own code and PowerBook. No appointment is needed—first-come, first-served.

Sacramento Room

Lab Hours

Monday	12:00pm to 6:00pm
Tuesday	9:00am to 6:00pm
Wednesday	9:00am to 6:00pm
Thursday	9:00am to 4:30pm
Friday	9:00am to 6:00pm

Q&A

Amy Fazio
Product Marketing Manager, QuickTime
afazio@apple.com

http://developer.apple.com/wwdc2003/urls.html

WWDC 2003

Worldwide Developers Conference